



PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
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Frédéric SIMONET et al.)
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Application No.: 10/728,846) Group Art Unit: 1751
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Filed: December 8, 2003) Examiner: E. Elhilo
)
For: OXIDATION DYE COMPOSITION FOR)
KERATIN FIBERS, COMPRISING AT) Confirmation No. 9233
LEAST ONE OXIDATION DYE, AT LEAST)
ONE ASSOCIATIVE POLYMER, AT LEAST)
ONE NONIONIC CELLULOSE-BASED)
COMPOUND NOT COMPRISING A C₈-C₃₀)
FATTY CHAIN, AND AT LEAST ONE)
CATIONIC POLYMER WITH A CHARGE)
DENSITY OF GREATER THAN 1 MEQ/G)
AND NOT COMPRISING A C₈-C₃₀ FATTY)
CHAIN)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

DECLARATION UNDER 37 C.F.R. § 1.132

I, Frédéric SIMONET, declare and state that,

1. I am a French citizen residing at 9, Rue de Provins 77131 TOUQUIN, FRANCE.
2. I am employed by L'ORÉAL as an engineer and have experience working with oxidation dye compositions.
3. I am a named inventor on the above-referenced patent application.

4. Given my education and experience, particularly in the area of hair dyeing, I consider myself able to provide the following testimony based on experiments conducted by me or under my supervision:

COMPARATIVE TESTING

Comparative chromaticity testing was performed with Inventive Compositions B and D, and Comparative Compositions A and C. Inventive Compositions B and D were prepared according to the present invention, comprising, in particular, at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes.

Comparative Composition A was prepared according to the claimed invention, with the exception that instead of a cationic associative polymer as-claimed, it comprised a **non ionic associative polyurethane**. Comparative Composition C was prepared according to the claimed invention, with the exception that instead of a cationic associative polymer as-claimed, it comprised a **non-ionic associative cellulose**.

This comparison demonstrates the different chromatic results of the dye compositions due to the associative polymer used.

I. COMPOSITIONS

The test compositions are summarized in the following table and described in detail below. The amounts are expressed as percentage by weight:

Ingredients	A comparative	B inventive	C comparative	D inventive
Mixture of linear C18 - C24 alcohols (C18/C20/C22/C24-7/58/30/6) amount of alcohols higher than 95%	3	3	3	3
Oleic acid	2.6	2.6	2.6	2.6
Oxyethylenated (2 EO) stearyl alcohol	4.5	4.5	4.5	4.5
Oxyethylenated (21 EO) stearyl alcohol	1.75	1.75	1.75	1.75
Coco acid monoisopropanolamide	3	3	3	3
hydroxypropyl methyl cellulose	0.2	0.2	0.2	0.2
tetramethyl hexamethylenediamine / dichloro 1,3-propylene polycondensate in aqueous solution	3.333	3.333	3.333	3.333
poly dimethyl diallyl ammonium chloride (40 % solution in water)	4	4	4	4
Carboxyvinilic polymer synthetized in a mixture of ethyl acetate / cyclohexane	0.4	0.4	0.4	0.4
Polymer of SMDI / polyethylene glycol with a decyl group in hydroglycolic solution (Aculyn 44) (non ionic associative polyurethane)	0.5			
cationic / quaternary ammonium statistic linear copolymer (Mexomere Par) (cationic associative polyurethane)		0.2		
Quaternized hydroxyethyl cellulose with lauryldimethylammonium epoxyde (Quatrisoft LM 200) (quaternized hydroxyethylcelluloses modified by at least C ₈ -C ₃₀ fatty chain)				0.2
Alkyl hydroxyethyl cellulose (C14/16) (Natrosol 330 Cs) (hydroxyethylcellulose modified by at least C ₁₆ fatty chain)			0.2	
1-methyl-2-hydroxy-4-beta-hydroxyethylamino-benzene	0.8	0.8	0.8	0.8
1,3-dihydroxybenzene	0.1	0.1	0.1	0.1
1-hydroxy-3-amino-benzene	0.2	0.2	0.2	0.2
1,4-diamino-benzene	0.2	0.2	0.2	0.2
1-hydroxy-4-amino-benzene	1.2	1.2	1.2	1.2

Mono-tertiobutyl hydroquinone	0.3	0.3	0.3	0.3
Sodium metabisulfite	0.71	0.71	0.71	0.71
ethylene diamine tetracetic acid	0.2	0.2	0.2	0.2
Perfume	0.5	0.5	0.5	0.5
Ammonia (20% of ammoniac)	11	11	11	11
Monoethanolamine	1	1	1	1
Water	qsp 100%	qsp 100%	qsp 100%	qsp 100%

II. DYEING PROCESS

Each composition was mixed, at the time of use with an oxidizing composition in the form of an emulsion comprising 7.5 weight % of hydrogen peroxide, in an amount of 1 part of dye composition per 1.5 parts of oxidizing composition.

The mixture obtained was applied to locks of permed hair, with 90% white, and left in for 30 minutes. The locks were then rinsed with water, washed with standard shampoo, again rinsed with water, and then dried.

III. CHROMATICITY DETERMINATION

The color of the hair was determined by using the L*a*b* system, with a SF600X Datacolor® colorimeter.

According to this system, the chromaticity of the color corresponds to the following formula:

$$C^* = [a^{*2} + b^{*2}]^{1/2}$$

wherein a* and b* are the coordinates of the resulting color. The higher the value of C*, the better the chromaticity.

IV. CHROMATICITY RESULTS

Comparison between Comparative Composition A and Inventive Composition B yielded the results in Table I:

Table I

Composition	C*
A (comparative)	20.41
B (inventive)	24.65

The results in Table I show that the chromaticity is significantly higher in the case of Inventive Composition B, compared with Comparative Composition A.

Comparison between Comparative Composition C and Inventive Composition D yielded the results in Table II:

Table II

Composition	C*
C (comparative)	19.82
D (inventive)	24.94

The results in Table II show that the chromaticity is significantly higher in the case of Inventive Composition D, compared with Comparative Composition C.

From these results, one skilled in the art can objectively conclude that the claimed cosmetic compositions, which comprise at least one oxidation dye, at least one cationic associative polymer chosen from quaternized celluloses modified with groups comprising at least one fatty chain, quaternized hydroxyethylcelluloses modified with groups comprising at least one fatty chain and cationic polyurethanes, at least one non ionic cellulose-based compound not comprising a C₈-C₃₀ fatty chain, and at least one

cationic polymer with a charge density of greater than 1 meq/g and not comprising a C₈-C₃₀ fatty chain, lead to an unexpected improvement in chromaticity in comparison with cosmetic compositions which comprise non-ionic associative polymers instead of the claimed cationic associative polymers.

I further declare that all statements made herein of my own knowledge are true and that all statements are made on information and belief are believed to be true ; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: _____

By: _____
Frédéric SIMONET